

CLAIMS

We claim:

1. A method of making a weak acid cation exchange resin comprising:
converting a swollen form weak acid cation exchange resin to a
converted, unswollen form weak acid cation exchange resin, and steam
cleaning the converted, unswollen form weak acid cation ion exchange
resin to obtain a cleaned weak acid cation exchange resin in an
unswollen form.
- 10 2. The method of claim 1 in which the unswollen weak acid cation
exchange resin is selected from one or more copolymers of crosslinked
poly(acrylic acid), crosslinked poly(methacrylic acid), hydrolyzed
crosslinked poly((C₁-C₄)alkyl acrylate) and hydrolyzed crosslinked
poly(acrylonitrile).
- 15 3. The method of claim 1 in which the converted, unswollen, weak acid
cation exchange resin is contacted with 2 to 5 kilograms of steam per
kilogram of hydrogen-form weak acid cation exchange resin.
- 20 4. The method of claim 1 in which the converted, unswollen, weak acid
cation exchange resin is contacted with steam for 2 to 4 hours.
5. The method of claim 1 in which the converted, unswollen weak acid
cation exchange resin is contacted with a peroxide.
- 25 6. A resin made by the method of claim 1.
7. A system or product comprising the resin of claim 1.
- 30 8. The system or product of claim 7 in which said system is selected
from the group consisting of a pharmaceutical purification system, an
industrial water treatment system, a consumer water treatment

system, and a catalytic system, and in which said product is selected from the group consisting of a water purification jug, a water purification cartridge, and combined cartridge and jug.

5 9. A downstream product made using the resin of claim 1.

10. The downstream product of claim 9 selected from the group consisting of a pharmaceutical ingredient, a pharmaceutical excipient, a purified water, and a high purity water.